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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PECHHOLD, ALEXANDRA K

ART UNIT PAPER NUMBER

3671

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,768

Applicant(s)

KRUGER ET AL.

Examiner

Alexandra K Pechhold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-30 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-7, 11-22, 24-27, 30, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols (US 5,401,116).

Regarding claim 1, Nichols discloses a conduit having a first chamber as shown in Fig. 4, and inherently has a major axis, central axis, and inner height. Fig. 4 also illustrates an a-semicircular, constant curve cross-sectional geometry. Judging from the shape shown in Fig. 4, a center point of the major axis would be disposed below the base of the chamber. Nichols fails to specifically disclose a desired inner width to inner height ratio of about 0.5 to about 2.0. As applicant indicated in 8/30/02 response, it appears from Fig. 4 of Nichols that the inner width to height ratio is about 2.5, though it is difficult to discern from the perspective view. Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner height of Nichols to be a little greater, or the inner width to be a little smaller, thereby falling into the claimed range, since the size constraints may be factors of the earth environment in which the conduit is used, and the amount of liquids passing through the conduit. Furthermore, applicant is merely claiming a range "about 0.5 to about 2.0", and

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the apparent ratio of 2.5 in Nichols can be argued to be "about 2.0". Also, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 30, Nichols discloses the limitations of the claimed invention as discussed in reference to claim 1 above. Furthermore, Nichols illustrates in Fig. 3 a plurality of conduits. Nichols merely discloses that the conduits are buried in the earth (Col 1, lines 48-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the depth of the conduits of Nichols to be at least 6 inches below the surface of the ground, since the desired depth will depend on the specific application, environmental conditions, material and strength characteristics, etc. Nichols also fails to specifically disclose a desired inner width to inner height ratio of about 0.5 to about 2.0. As applicant indicated in 8/30/02 response, it appears from Fig. 4 of Nichols that the inner width to height ratio is about 2.5, though it is difficult to discern from the perspective view. Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner height of Nichols to be a little greater, or the inner width to be a little smaller, thereby falling into the claimed range, since the size constraints may be factors of the earth environment in which the conduit it used, and the amount of liquids passing through the conduit. Furthermore, applicant is merely claiming a range "about 0.5 to about 2.0", and the apparent ratio of 2.5 in Nichols can be argued to be "about 2.0". Also, it has been held that where the general conditions of a claim are disclosed in the prior art,

discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 4 and 33, Nichols fails to disclose an inner width to height ratio of about 1.5 to about 2.0. Nichols does not specify any particular height or width dimension requirements. As applicant indicated in 8/30/02 response, it appears from Fig. 4 of Nichols that the inner width to height ratio is about 2.5, though it is difficult to discern from the perspective view. Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner height of Nichols to be a little greater, or the inner width to be a little smaller, thereby falling into the claimed range, since the size constraints may be factors of the earth environment in which the conduit it used, and the amount of liquids passing through the conduit. Furthermore, applicant is merely claiming a range "about 1.5 to about 2.0", and the apparent ratio of 2.5 in Nichols can be argued to be "about 2.0". Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 5, 6, 34, and 35, Nichols illustrates an inner height in Fig. 4 that is definitely less than 50% of a major axis, though it is difficult to determine the percentage from the drawing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner height of the chamber of Nichols to be about 49% of the major axis, or about 44-48% of the major axis, since the applicant is merely claiming values "about" 49% or 44-48%, and furthermore, it has

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been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 7, Nichols illustrates a flange extending outward from a base of the first chamber in Fig. 4. A support member disposed on the flange can be seen as the bottom of the peak corrugation (28a) that joins the flange in Fig. 4.

Regarding claim 11, Nichols illustrates a flange extending outward from a base of the first chamber in Fig. 4, with connecting elements disposed on the flange, seen as the bottom of the peak corrugation (28a) that joins the flange in Fig. 4.

Regarding claims 12-15, Nichols discloses that the conduits are typically made of a strong molded plastic (Col 1, lines 51-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the material used by Nichols to be polyolefin or polypropylene, since Nichols states in column 1, lines 51-54 that a strong molded plastic is typically used. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 16, 17, and 18, Nichols fails to disclose any desired flexural modulus range, merely noting that a strong molded plastic material is typically used (Col 1 lines 51-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the material used by Nichols to have a flexural modulus of 500MPa or greater, or about 800-3000MPa, or about 900-2300MPa, since

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Nichols states in column 1, lines 51-54 that a strong molded plastic is typically used, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 19, Nichols illustrates a plurality of corrugations which form peaks and valleys in Fig. 3.

Regarding claims 20-22, Nichols illustrates in Fig. 6 the corrugation sides oriented at an angle that appears to fall within the recited ranges.

Regarding claim 24, Nichols discloses a double-walled end closure (40) shown in Fig. 11.

Regarding claims 25 and 26, Nichols fails to disclose an inner width to height ratio of the endplate shown in Fig. 11. Nichols does not specify any particular height or width dimension requirements. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the height and width ratios to fall within the recited ranges, since Nichols emphasizes that one of the desired features of the conduit is its ability to support heavy loads (Col 1, lines 48-51), and therefore through experimentation, the most effective ratios can be determined. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 27, Nichols illustrates chamber in fluid communication with each other in Fig. 3, and discloses an end closure (40) shown in Fig. 11.

Regarding claim 36, Nichols discloses a conduit having a first chamber as shown in Fig. 4, and inherently has a major axis, central axis, and inner height. Fig. 4 also illustrates an a-semicircular, constant curve cross-sectional geometry. Judging from the shape shown in Fig. 4, a center point of the major axis would be disposed below the base of the chamber. Nichols fails to disclose a safety rating of greater than or equal to about 1.95 under AASHTO H-20. Yet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conduits of Nichols to have a safety rating of greater than or equal to about 1.95 under AASHTO H-20, since this merely requires meeting design requirements which would be mandatory upon installation.

3. Claims 8-10, 23, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols (US 5,401,116) as applied to claims 1 and 7 above, and further in view of DiTullio (US 5,087,151).

Regarding claims 8 and 9, Nichols fails to disclose a support member spanning two or more corrugations, or wherein such a support member is disposed intermittently on the flange. DiTullio teaches a support member, seen as the top of base portion (26) in Fig. 1, disposed longitudinally a flange, and spanning two or more corrugations, seen as rib members (18) in Fig. 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the flange of Nichols to include a support member which spans two or more corrugations as taught by DiTullio, since

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DiTullio states in column 4, lines 26-27 that the base portions (26) are designed to support the gallery (10) on the ground. Therefore, greater support at the base of the structure can aid in maintaining structural integrity, particularly under heavy loads, which is one of Nichols' desired features (Col 1, lines 48-51). With respect to the recitation in claim 9 of the support member being disposed intermittently, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the base portion of DiTullio to be intermittent, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claim 10, Nichols fails to disclose connecting elements disposed between corrugations and a support member. DiTullio teaches connecting elements seen as lugs (24) in Fig. 1, which are disposed between ribs (18) and base portion (26). DiTullio states that these lugs (24) allow the gallery (10) to be nested with other similar galleries without firmly locking thereto and facilitate separation thereof (Col 4, lines 20-23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fluid management system of Nichols to include connecting elements disposed between corrugations and a support member as taught by DiTullio, since DiTullio states in column 4, lines 20-23 that such lugs allow the gallery to be nested with other similar galleries without firmly locking thereto and facilitate separation thereof.

Regarding claim 23, Nichols fails to disclose one or more supporting elements on the flange, and one or more connecting members on the flange between the supporting

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elements. DiTullio teaches one or more supporting elements on a flange, seen as the top protruding portion of base portion (26) on the bottom of the base portion (26) in

Fig. 1. DiTullio illustrates one or more connected members disposed on the flange perpendicular to the chamber and supporting element, seen as lugs (24) in Fig. 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fluid management system of Nichols to include one or more supporting elements on the flange, and one or more connecting members on the flange between the supporting elements as taught by DiTullio, since DiTullio states in column 4, lines 20-23 that such lugs allow the gallery to be nested with other similar galleries without firmly locking thereto and facilitate separation thereof.

Regarding claim 28, Nichols fails to disclose a baffle as recited. DiTullio teaches a baffle having an opening to allow fluid passage through the baffle, seen as apertures (22) in Figs. 1 and 14. Fig. 14 illustrates the overlapping section the baffle disposed in the overlapping section. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fluid management system of Nichols to include a baffle as recited as taught by DiTullio, since DiTullio states in column 4, lines 17-20 that such apertures permit effluent to drain from the interior of the leaching gallery.

Regarding claim 29, Nichols merely discloses that the conduits are buried in the earth (Col 1, lines 48-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the depth of the conduits of Nichols so that at least 18 inches of compacted cover lie above, since the desired depth will

depend on the specific application, environmental conditions, material and strength characteristics, etc. Nichols also fails to disclose a safety rating of greater than or equal to about 1.95 under AASHTO H-20. Yet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conduits of Nichols to have a safety rating of greater than or equal to about 1.95 under AASHTO H-20, since this merely requires meeting design requirements which would be mandatory upon installation.

Response to Arguments

4. Applicant's arguments filed 8/30/02 have been fully considered but they are not persuasive. Applicant has amended claims 1 and 30 to recite an inner width to inner height ratio of about 0.5 to about 2.0. As indicated in applicant's 8/30/02 response, it appears from Fig. 4 of Nichols that the inner width to height ratio is about 2.5, though the perspective view makes it difficult to discern. Applicant provides no criticality to this ratio range, since page 5 of the Specification discloses several broad ranges. Furthermore, applicant is merely claiming a range "about 0.5 to about 2.0", and the apparent ratio of 2.5 in Nichols can be argued to be "about 2.0". Slightly modifying the inner height of Nichols to be a little greater, or the inner width to be a little smaller, thereby falling closer into the claimed range is a design choice within ordinary skill in the art, since the size constraints can be factors of the earth environment in which the conduit is used, and the amount of liquids passing through the conduit, and one would

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design the conduit with the most suitable dimensional ratio for the application without compromising structural integrity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
9/11/02